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ABSTRACT

The primary purpose of the student follow-up questionnaires was to identify instructional and curricular deficiencies in sufficiently specific terms to provide a basis for correcting the deficiencies. This effort was part of the evaluation component of a program dealing with the systematization of instruction. Two instruments were developed: one for obtaining information from former students in the vocational program and one for former students in the transfer program. In both cases, the intent was to develop a general instrument that could be used with all students regardless of the specific program which students had pursued while at El Paso Community College (EPCC). A series of Faculty Motivation Scales were also constructed to measure faculty involvement in the development of modular instruction in the FIPSE (Fund for the Improvement of Secondary Education) program. These scales were concerned with the types of interactions and the quality of assistance that was offered between program administrators and teachers, and between different instructors. The results of both student questionnaires and of the faculty rating scales are presented. (Author/MV)

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DEVELOPMENT OF FOLLOW-UP QUESTIONNAIRES FOR VOCATIONAL AND TRANSFER STUDENTS AT THE EL PASO COMMUNITY COLLEGE

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CONSULTING REPORT

DEVELOPMENT OF FOLLOW-UP QUESTIONNAIRES FOR VOCATIONAL AND TRANSFER STUDENTS AT THE EL PASO COMMUNITY COLLEGE AND DEVELOPMENT OF FACULTY MOTIVATION SCALES

Paul G. Whitmore, Ph.D.

June 30, 1975

HUMAN RESOURCES RESEARCH ORGANIZATION
Western Division
El Paso Office

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I. STUDENT FOLLOW-UP QUESTIONNAIRES

RATIONALE AND DEVELOPMENT OF THE INSTRUMENTS

Primary Purpose

Student follow-up questionnaires can be developed to obtain information to serve different purposes. They can be used to assess attainment of some of the institution's major goals; they can be used to assess performance of institutional components; or they can be used to identify specific deficiencies as a basis for corrective action. The questionnaires developed in this project place emphasis on the last of these purposes, but not to the exclusion of the first two purposes. The primary purpose was to identify instructional and curricular deficiencies in sufficiently specific terms to provide a basis for correcting the deficiencies. This effort is part of the evaluation component of a program dealing with the systematization of instruction.

Two instruments were developed: One for obtaining information from former students in the vocational program and one for obtaining information from former students in the transfer program. In both cases, the intent was to develop a general instrument that could be used with all students regardless of the specific program which they had pursued while at El Paso Community College (EPCC).

Level of Specificity

Since the questionnaires were developed primarily to obtain information about instructional deficiencies, the questionnaires had to be precise, concrete, and objective. As a result, they were also relatively long.

In designing such questionnaires, the first step should be to identify the specific uses to be made of the resulting information--the specific decisions to be made on the basis of the information. Analysis of these uses (decisions) would prescribe the kind and specificity of information to be obtained. A formal analysis of this sort was not undertaken in this project because of insufficient time. However, the usefulness of the information to instructors and administrators was informally challenged throughout the development of the items.

Common Functions

Both instruments included items concerning the preparation of the students on course content and on the quality of instruction he received at EPCC. The vocational student was asked to evaluate his content preparation with regard to job requirements he has experienced since leaving EPCC. The transfer student was asked to evaluate his content preparation with regard to how well he compared to other students at his present college or university. The vocational and transfer student items dealing with content preparation were different from each other. Both include at least some constructed-response questions.

The instructional quality items were concerned with specific instructional practices. The students were asked to indicate the percentage of their instructors at EPCC who engaged in each practice. Former transfer students also were asked to provide the same information with regard to their instructors at their present college or university. The vocational and transfer student items dealing with instructional quality asked about the same practices in the same order.

Functional Specification of the Questionnaires

1. Vocational students Follow-Up Questionnaire (VSFQ). This questionnaire was designed as follows:
   a. Student ID block
      (1) SSN
      (2) Sex
      (3) Marital status
      (4) Number of children
      (5) Age
      (6) Ethnic identification
   b. Program of participation at EPCC (Items 1 and 2).
   c. Educational and vocational experiences and benefits following attendance at EPCC (Items 3,4,5,6,7,11, and 12).
   d. Content preparation (Items 8,9,10,13, and 14).
   e. Instructional quality experienced at EPCC.

2. Transfer Students Follow-Up Questionnaire (TSFQ). This questionnaire was designed as follows:

   a. Student ID block. It was intended to use the same ID block as used in the VSFQ, but a mix-up in delivering materials to EPCC led to an earlier version of the questionnaire that did not include this block being used in the try-out. Only student name was obtained.

   b. Content preparation.

   c. General information preparation. This block asked respondents to identify general information topics on which they would have liked to have been better informed.

   d. Oral communication skills. This block asked respondents to assess their own ability to communicate their ideas orally to others.

   e. Learning skills. This block asked respondents about a few of their study related activities.

   f. Instructional quality experienced at EPCC and at their present college or university.

RESULTS OF THE TRIAL ADMINISTRATION

Vocational Students Follow-up Questionnaire (VSFQ)

This questionnaire was mailed out to 250 former students. Fifty-eight returned their completed forms. This yields a return rate of 23.2 percent. Such a small return rate makes the representativeness of the returned forms suspect.[1/]

Not all respondents answered all items. The number of students responding to an item is shown in bold face print. In most instances, the number of students selecting each alternative for an item is given as a percent.

A. Student ID Block.

Sex: 58

Male:	39.7%
Female:	60.3%

Marital Status: 57

Single:	24.6%
Married:	68.4%
Widowed:	
Divorced:	7.0%
Other:	

Number of Children: 57

None:	47.4%
One:	15.8%
Two:	14.0%
Three:	10.5%
Four or More:	12.3%

Age: 57

Under 21:	19.3%
21 - 25:	33.3%
26 - 30:	8.8%
31 - 35:	10.5%
36 - 50:	19.3%
Over 50:	8.8%

[1/] See section entitled Sample Size on page 42.

Ethnic Group: 58

American Indian:	
Black/Negro:	1.7%
Oriental:	3.4%
Mexican American/Spanish Surname:	39.7%
White/Anglo/Caucasian:	51.7%
Other:	3.4%

B. Program Participation.

1. What program were you in at El Paso Community College?

Accounting	1
Air Conditioning & Refrigeration	5
Auto Mechanics	8
Banking	0
Business Administration	2
Child Development Assoc.	0
Construction Management	0
Dental Assistant	0
Dental Hygiene	0
Drafting	0
Education	0
Fire Technology	0
General Business (One Yr. Program)	0
General Business (Two Yr. Program)	1
Industrial Management	2
Liberal Arts	1
Law Enforcement	0
Mid-Management	6
Nursing, Associate Degree	11
Nursing, Licensed Vocational	20
Operating Room Technology	0
Radiologic Technology	0
Respiratory Therapy	0

Secretarial Science Bilingual Sec.	0
Secretarial Science Exec. Secretary	2
Secretarial Science Gen. Secretary	1
Secretarial Science Legal Sec.	3
Secretarial Science Medical Sec.	1

2. How much of the program did you complete? 51

60+ hours	68.6%
45 - 60 hours	9.8%
30 - 45 hours	3.9%
15 - 30 hours	13.7%
less than 15 hours	3.9%

C. Educational and Vocational Experiences and Benefits Following Attendance at El Paso Community College.

3. Have you continued your education since leaving the El Paso Community College at either an advanced vocational school or at a college or university? Check One. 53

I have attended a college or univ. since leaving EPCC.	3.8%
I have attended an advanced voc. school since leaving EPCC.	1.9%
I have not received any added educ. since leaving EPCC.	94.3%

4. Are you now working in the occupation for which you were trained at El Paso Community College? 57

I am working in the occupation for which I was trained at EPCC.	49.1%
I am working in a related occupation	14.0%
I am working in an unrelated occupation	12.3%
I am in the military service.	
I am unemployed, but looking for work.	10.5%
I am unemployed because I am sick.	1.8%
I am unemployed because I am changing occupations.	
I am unemployed for some other reason.	12.3%

5. How many hours do you work per week? 50

Less than 10	10.0%
10 - 20	4.0%
20 - 30	2.0%
30 - 40	32.0%
40 - 50	50.0%
50 - 60	
More than 60	2.0%

6. How much were you making per week before entering El Paso Community College? How much do you make per week now? 49 48

$ 0 - 40	30.6%	10.4%
40 - 80	22.4%	6.3%
80 - 120	20.4%	20.8%
120 - 140	4.1%	18.8%
140 - 200	6.1%	14.6%
200 - 240	4.1%	10.4%
240 - 280	2.0%	6.2%
280 - 320	2.0%	
More than $320	8.2%	12.5%

7. How much has your income increased per week as a result of your going to the El Paso Community College? 49

I can't say because I wasn't working full time or because I was working in a very different kind of job before going to EPCC.	32.7%
Less than $5	6.1%
$5 - 10	
$10 - 20	6.1%
$20 - 30	
$30 - 40	6.1%
$40 - 50	6.1%
More than 50	18.4%
Attending EPCC is not the reason for my making more now. It would have happened anyway.	24.5%

11. Have you had trouble finding or holding a job for which you were trained by your EPCC Program? 45

Yes	22.2%
No	77.8%

12. Check each statement which describes your experiences. 10

I could not find any openings in the job for which I was trained.	6
Salaries offered by employers were lower than I expected.	6
There were many applicants for only a few openings.	4
Jobs have not lasted very long.	0
I have been let go because I didn't know how to do some part of the job.	2

D. Content Preparation.

8. What courses in your El Paso Community College program helped you the most in your job? Be as specific as you can.

9. What courses in your EPCC program helped you the least in your job? Be as specific as you can.

10. Did any course in your EPCC program teach you wrong information or wrong job procedures? What incorrect things were you taught, if any? Be as specific as you can.

Items 8, 9, and 10 called for constructed responses from respondents. The few responses that were obtained did not provide useful information.

13. Check each statement that describes the information and practice exercises in your El Paso Community College program. 58

THEORETICAL INFORMATION

Too much. I was taught concepts I didn't need on the job.	3.4%
Too little. I wasn't taught concepts I did need on the job.	17.2%
Explanations were hard to follow.	1.7%
There were some important mistakes in the information.	5.2%
Theoretical information was well selected for the job and easy to understand.	51.7%
Other	

SPECIFIC FACTS

Too many. I was made to learn many details I didn't need on the job.	10.3%
Too few. I wasn't made to learn many details I did need on the job.	12.1%
Specific facts were not related to theoretical information. I was not taught why certain facts were important.	1.7%
I was made to learn facts that are easily found in job manuals.	6.9%
Specific facts were well selected for the job and related well to theoretical information.	46.6%
Other	

JOB ACTIVITIES AND SKILLS

I was not taught how to use some job manuals.	6.9%
I was not taught how to use some critical tools and instruments.	8.6%
I was not taught how to perform some common job activities.	10.3%
Classroom demonstrations were not clear or were difficult to see.	6.9%
I did not get enough practice actually using manuals and tools in doing job activities.	12.1%
I received clear demonstrations and plenty of practice doing most common job activities with the proper manuals and tools.	25.9%
My instructors did not give me very good feedback on my performance.	12.1%
Performance directions for using manuals and tools and for performing job activities were not clear or complete.	
Manuals, equipment, and tools used in the classroom were not like those I use on the job.	5.2%
Practice problems in the classroom were not like problems I get on the job.	17.2%
Feedback from my instructors was very helpful in correcting my mistakes.	32.8%
Practice problems, tools, manuals and equipment were very similar to job practices.	39.7%
Other	1.7%

COMMUNICATIONS

The Textbooks and laboratory (or shop) manuals were too difficult to read easily.

The explanations and directions given by instructors were too difficult to understand easily.

Directions for doing job activities did not have enough detail or were poorly organized. 20.7%

Explanations and directions were clear, well organized, at a proper level of detail. 63.8%

Other

14. Answer the following questions only if you have had some experience on the job for which you were trained. Check each statement that describes your experience. 9

The people you work with use many technical words that you did not use or understand.

You used many technical words at EPCC that the people you work with do not use or understand. 3

You have problems understanding the pronunciation (or sound) of many words used by your co-workers.

Your co-workers have problems understanding your pronunciation (or sound) or many words.

You don't speak English well enough to talk easily with the people you work with.

You don't speak Spanish well enough to talk easily with the people you work with. 5

You find the job manuals more difficult to read and understand than your co-workers do.

You have more trouble filling out forms and reports than your co-workers do. 1

You hardly ever read trade journals and magazines be because they are difficult for you to understand.

E. Instructional Quality.

What percent of your El Paso Community College instructors did each of the following things? Place a check in one of the boxes in the middle column to indicate the percent that did each thing.

		0-10	10-20	20-40	40-60	60-80	80-90	90-100
15. What percent of the instructors responded helpfully to students' questions and learning problems?	54	1.9%	3.7%	3.7%	9.3%	16.7%	29.6%	35.2%
16. What percent of the instructors required students to learn on their own without special help?	53	24.5%	17.0%	18.9%	11.3%	7.5%	15.1%	5.7%
17. What percent of the instructors praised students for good or improved performance?	54	11.1%	7.4%	11.1%	18.5%	9.3%	20.4%	22.2%
18. What percent of the instructors scolded students or put them down?	54	57.4%	24.1%	3.7%	5.6%	1.9%	5.6%	1.9%
19. What percent of the instructors were always available during office hours to help individual students?	50	2.0%	2.0%	6.0%	18.0%	12.0%	24.0%	36.0%
20. What percent of the instructors gave examinations that were too easy?	51	68.7%	21.6%	3.9%	2.0%	3.9%	0.0%	0.0%
21. What percent of the instructors gave examinations that were unnecessarily difficult?	53	66.0%	17.0%	3.8%	7.5%	1.9%	3.8%	0.0%
22. What percent of the instructors gave examinations that were not relevant to later needs?	55	61.8%	18.2%	18.2%	1.8%	0.0%	0.0%	0.0%
23. What percent of the instructors gave feedback on homework, reports, and tests with as little delay as possible?	54	13.0%	7.4%	3.7%	9.3%	16.7%	22.2%	27.8%
24. What percent of the instructors gave feedback on homework, reports, and tests that was long delayed?	53	60.4%	22.6%	1.9%	3.8%	5.7%	5.7%	0.0%

		0-10	10-20	20-40	40-60	60-80	80-90	90-100
25. What percent of the instructors gave feedback on homework, reports, and tests that was very useful in helping students to correct their mistakes?	55	14.5%	3.6%	5.5%	3.6%	14.5%	34.5%	23.6%
26. What percent of the instructors gave feedback on homework, reports, and tests that did not help them to correct their mistakes?	52	65.4%	17.3%	5.8%	3.8%	1.9%	5.8%	0.0%
27. What percent of the instructors did not give students enough practice or time to insure that they learned?	53	56.6%	22.6%	5.7%	7.5%	0.0%	1.9%	5.7%
28. What percent of the instructors made students study and practice much more than necessary to learn the material?	51	56.9%	21.6%	11.8%	2.0%	2.0%	3.9%	2.0%
29. What percent of the instructors allowed class discussions to ramble from the purpose of the course?	53	37.7%	32.1%	9.4%	5.7%	5.7%	7.5%	1.9%
30. What percent of the instructors conducted class discussions that were well managed and involved many students?	54	9.3%	11.1%	9.3%	13.0%	13.0%	25.9%	18.5%
31. What percent of the instructors did not allow discussion in class?	54	83.3%	9.3%	3.7%	1.9%	1.9%	0.0%	0.0%
32. What percent of the instructors allowed a few students to dominate class discussions?	55	61.8%	21.8%	1.8%	1.8%	3.6%	5.5%	3.6%
33. What percent of the instructors gave lectures that were poorly organized?	55	60.0%	25.5%	5.5%	5.5%	0.0%	3.6%	0.0%

		0-10	10-20	20-40	40-60	60-80	80-90	90-100
34. What percent of the instructors gave lectures that contained clear and simple explanations of concepts and procedures?	55	1.8%	7.3%	9.1%	12.7%	10.9%	30.9%	27.3%
35. What percent of the instructors gave lectures that were over the students' heads?	51	74.5%	17.6%	5.9%	2.0%	0.0%	0.0%	0.0%

Transfer Students Follow-up Questionnaire (TSFQ)

This questionnaire was mailed out to 150 former students. Thirty-eight returned their completed forms. This yields a return rate of 25.3 percent.

Not all respondents answered all items. The number of students responding to an item is shown in bold face. In most instances, the number of students selecting each alternative for an item is given as a percent.

A. Student ID Block.

Inadvertantly omitted from trial questionnaire.

B. Content Preparation.

1. Are there any general concepts, principles, skills, or bodies of information in which you were poorly prepared compared to students from other colleges in your classes? 33

Yes	24.2%
No	75.8%

2. In what subjects were you most poorly prepared? Place a check by those subjects in which you were poorly prepared. 8

Political Science	2
Literature	2
Chemistry	0
Physics	0
Psychology	0
Sociology	1
Biology	2
Mathematics	5
Economics	2
English Composition	1
History	0
Other	

3. For each subject checked above, list those concepts, principles, information, and skills that caused you problems. Be as specific as you can.

Item 3 called for constructed responses from respondents. The few responses that were obtained did not provide useful information.

4. Are there any general concepts, principles, information, or skills in which you were better prepared compared to students in other colleges in your classes? 31

Yes	54.8%
No	45.2%

If "No" skip to Question 7.

5. In what subjects were you best prepared? Place a check by those subjects in which you were very well prepared. 17

Political Science	9
Literature	7
Chemistry	0
Physics	0
Psychology	8
Sociology	5
Biology	5
Mathematics	5
Economics	2
English Composition	13
History	9
Other	

6. For each subject checked above, list those concepts, principles, information, and skills that have been your strong points. Be as specific as you can.

Item 6 called for constructed responses from respondents. The few responses that were obtained did not provide useful information.

C. General Information Preparation.

7. Have you felt comfortable in talking to other students about general information topics such as world and national affairs, social issues, and contemporary art, literature, and music? In other words, have you felt that you know as much about what's going on in the world as do most other students? 36

Yes	86.1%
No	13.9%

If "Yes" skip to Question 9.

8. On what general information topics would you like to have been better informed while at El Paso Community College? Check <u>each</u> one that seriously interests you.

<u>Social Issues</u>

Causes and effects of poverty
Distribution of wealth
Racial and ethnic differences
Distribution of Power
Response of government to people's needs
Patterns of influence in our society
Population control
Altered states of consciousness
Other

<u>National Issues</u>

Inflation
Energy crises
Pollution
Military spending
Legal rights of minority groups
Presidential powers

<u>World Affairs</u>

Israel and the Arab nations
Repression in the Soviet Union
World food supplies and distribution
Critical resources and world consumption
Danger spots in world society
Other

<u>Contemporary Literature, Art, and Music</u>

Literature of the Third World
Modern popular music
Contemporary ethnic poetry
Other

Responses to this item were too few and diffuse to be useful.

D. Oral Communication Skills.

9. Do you feel comfortable with the way you talk in expressing your thoughts to other students? 36

Yes	86.1%
No	13.9%

If "Yes" skip to Question 13.

10. Are your problems primarily with speaking English, Spanish, or both? 5

English	2
Spanish	1
Both	2

11. Do you feel that your vocabulary is adequate to say what you want to say to other students? 5

Yes	4
No	1

12. Do you feel that others often misunderstand you because of your poor pronunciation of words? 5

Yes	3
No	2

13. Do you feel comfortable with your understanding of other students' expressions of their thoughts? 36

Yes	94.4%
No	5.6%

If "Yes" skip to Question 17.

14. Are your problems primarily with understanding English, Spanish, or both? 2

English	
Spanish	1
Both	1

15. Do other students often use words whose meaning you do not know? 2

Yes	2
No	0

16. Do you often misunderstand other students' pronunciation of words? 2

Yes	2
No	0

E. Learning Skills.

17. Have you been able to take adequate class notes that contained all necessary information? 36

Yes	94.4%
No	5.6%

18. Do you regularly outline and summarize your textbooks as you go through them? 36

Yes	55.6%
No	44.4%

19. Do you have more difficulty studying regularly and meeting deadlines for reports than most other students? 35

Yes	8.6%
No	91.4%

20. Do you cut classes very often? 35

Yes	2.9%
No	97.1%

21. Do you ask your instructors to explain points in class that you do not understand? 36

Yes	80.6%
No	19.4%

22. Do you state most of your ideas and insights about a topic openly in class? 36

Yes	63.9%
No	36.1%

23. When you left El Paso Community College, were you able to use a library card file to find resource materials on a topic? 35

Yes	82.9%
No	11.4%
Not very well	5.7%

F. Instructional Quality		N	0-10	10-20	20-40	40-60	60-80	80-100
24. What percent of the instructors responded helpfully to students' questions and learning problems?	EPCC	28	3.6%	0.0%	0.0%	3.6%	25.0%	67.9%
z=4.25 (N=20,8) p<.05	Pres.U.	28	3.6%	7.1%	28.6%	17.9%	21.4%	21.4%
25. What percent of the instructors required students to learn on their own without special help?	EPCC	28	39.3%	17.9%	14.3%	7.1%	10.7%	10.7%
z=3.62 (N=22,6) p<.05	Pres.U.	28	14.3%	3.6%	7.1%	21.4%	17.9%	35.7%
26. What percent of the instructors praised students for good or improved performance?	EPCC	28	7.1%	7.1%	7.1%	14.3%	35.7%	28.6%
z=4.40 (N=25,3) p<.05	Pres.U.	28	28.6%	25.0%	17.9%	14.3%	10.7%	3.6%
27. What percent of the instructors scolded students or put them down?	EPCC	28	85.7%	10.7%	0.0%	0.0%	3.6%	0.0%
z=2.77 (N=13,14) p<.05	Pres.U.	28	50.0%	25.0%	17.9%	0.0%	7.1%	0.0%
28. What percent of the instructors were always available during office hours to help individual students?	EPCC	28	7.1%	0.0%	3.6%	7.1%	42.9%	39.3%
z=3.75 (N=16,11) p<.05	Pres.U.	27	11.1%	14.8%	25.9%	18.5%	11.1%	18.5%
29. What percent of the instructors gave examinations that were too easy?	EPCC	29	24.1%	44.8%	10.3%	17.2%	3.4%	0.0%
z=3.25 (N=16,11) p<.05	Pres.U.	29	72.4%	20.7%	3.4%	3.4%	0.0%	0.0%
30. What percent of the instructors gave exams that were unnecessarily difficult?	EPCC	27	55.6%	33.3%	0.0%	7.4%	3.7%	0.0%
z=3.53 (N=18,9) p<.05	Pres.U.	27	18.5%	29.6%	7.4%	18.5%	22.2%	3.7%

		N	0-10	10-20	20-40	40-60	60-80	80-100
31. What percent of the instructors gave examinations that were not relevant to later needs?	EPCC	29	72.4%	6.9%	6.9%	6.9%	3.4%	3.4%
z=2.41 (N=14,13) p<.05	Pres.U.	23	41.4%	20.7%	24.1%	6.9%	6.9%	0.0%
32. What percent of the instructors gave feedback on homework, reports, and tests with as little delay as possible?	EPCC	28	7.1%	0.0%	7.1%	17.9%	17.9%	50.0%
z=2.80 (N=25,3) p<.05	Pres.U.	28	10.7%	21.4%	32.1%	10.7%	10.7%	14.3%
33. What percent of the instructors gave feedback on homework, reports, and tests that was long delayed?	EPCC	28	42.9%	39.3%	7.1%	3.6%	0.0%	7.1%
z=1.92 (N=22,6) NS	Pres.U.	28	32.1%	14.3%	32.1%	10.7%	7.1%	3.6%
34. What percent of the instructors gave feedback on homework, reports, and tests that was very useful in helping students to correct their mistakes?	EPCC	30	10.0%	3.3%	13.3%	20.0%	30.0%	23.3%
z=3.22 (N=22,6) p<.05	Pres.U.	30	16.7%	23.3%	16.7%	23.3%	13.3%	6.7%
35. What percent of the instructors gave feedback on homework, reports, and tests that did not help them to correct their mistakes?	EPCC	30	63.3%	20.0%	10.0%	3.3%	3.3%	0.0%
z=1.94 (N=17,11) NS	Pres.U.	29	37.9%	24.1%	17.2%	20.7%	0.0%	0.0%
36. What percent of the instructors did <u>not</u> give students enough practice or time to insure that they learned?	EPCC	28	64.3%	25.0%	7.1%	3.6%	0.0%	0.0%
z=3.05 (N=18,10) p<.05	Pres.U.	28	32.1%	28.6%	10.7%	10.7%	17.9%	0.0%
37. What percent of the instructors made students study and practice much more than necessary to learn the material?	EPCC	28	60.7%	7.1%	14.3%	7.1%	7.1%	3.6%
z=0.49 (N=17,11) NS	Pres.U.	28	35.7%	39.3%	3.6%	10.7%	7.1%	3.6%

16. Do you often misunderstand other students' pronunciation of words? 2

Yes	2
No	0

E. Learning Skills.

17. Have you been able to take adequate class notes that contained all necessary information? 36

Yes	94.4%
No	5.6%

18. Do you regularly outline and summarize your textbooks as you go through them? 36

Yes	55.6%
No	44.4%

19. Do you have more difficulty studying regularly and meeting deadlines for reports than most other students? 35

Yes	8.6%
No	91.4%

20. Do you cut classes very often? 35

Yes	2.9%
No	97.1%

21. Do you ask your instructors to explain points in class that you do not understand? 36

Yes	80.6%
No	19.4%

22. Do you state most of your ideas and insights about a topic openly in class? 36

Yes	63.9%
No	36.1%

23. When you left El Paso Community College, were you able to use a library card file to find resource materials on a topic? 35

Yes	82.9%
No	11.4%
Not very well	5.7%

F. Instructional Quality		N	0-10	10-20	20-40	40-60	60-80	80-100
24. What percent of the instructors responded helpfully to students' questions and learning problems?	EPCC	28	3.6%	0.0%	0.0%	3.6%	25.0%	67.9%
z = 4.25 (N=20,8) p<.05	Pres.U.	28	3.6%	7.1%	28.6%	17.9%	21.4%	21.4%
25. What percent of the instructors required students to learn on their own without special help?	EPCC	28	39.3%	17.9%	14.3%	7.1%	10.7%	10.7%
z=3.62 (N=22,6) p<.05	Pres.U.	28	14.3%	3.6%	7.1%	21.4%	17.9%	35.7%
26. What percent of the instructors praised students for good or improved performance?	EPCC	28	7.1%	7.1%	7.1%	14.3%	35.7%	28.6%
z=4.40 (N=25,3) p<.05	Pres.U.	28	28.6%	25.0%	17.9%	14.3%	10.7%	3.6%
27. What percent of the instructors scolded students or put them down?	EPCC	28	85.7%	10.7%	0.0%	0.0%	3.6%	0.0%
z=2.77 (N=13,14) p<.05	Pres.U.	28	50.0%	25.0%	17.9%	0.0%	7.1%	0.0%
28. What percent of the instructors were always available during office hours to help individual students?	EPCC	28	7.1%	0.0%	3.6%	7.1%	42.9%	39.3%
z=3.75 (N=16,11) p<.05	Pres.U.	27	11.1%	14.8%	25.9%	18.5%	11.1%	18.5%
29. What percent of the instructors gave examinations that were too easy?	EPCC	29	24.1%	44.8%	10.3%	17.2%	3.4%	0.0%
z=3.25 (N=16,11) p<.05	Pres.U.	29	72.4%	20.7%	3.4%	3.4%	0.0%	0.0%
30. What percent of the instructors gave exams that were unnecessarily difficult?	EPCC	27	55.6%	33.3%	0.0%	7.4%	3.7%	0.0%
z=3.53 (N=18,9) p<.05	Pres.U.	27	18.5%	29.6%	7.4%	18.5%	22.2%	3.7%

		N	0-10	10-20	20-40	40-60	60-80	80-100
31. What percent of the instructors gave examinations that were not relevant to later needs?	EPCC	29	72.4%	6.9%	6.9%	6.9%	3.4%	3.4%
z=2.41 (N=14,13) p<.05	Pres.U.	29	41.4%	20.7%	24.1%	6.9%	6.9%	0.0%
32. What percent of the instructors gave feedback on homework, reports, and tests with as little delay as possible?	EPCC	28	7.1%	0.0%	7.1%	17.9%	17.9%	50.0%
z=2.80 (N=25,3) p<.05	Pres.U.	28	10.7%	21.4%	32.1%	10.7%	10.7%	14.3%
33. What percent of the instructors gave feedback on homework, reports, and tests that was long delayed?	EPCC	28	42.9%	39.3%	7.1%	3.6%	0.0%	7.1%
z=1.92 (N=22,6) NS	Pres.U.	28	32.1%	14.3%	32.1%	10.7%	7.1%	3.6%
34. What percent of the instructors gave feedback on homework, reports, and tests that was very useful in helping students to correct their mistakes?	EPCC	30	10.0%	3.3%	13.3%	20.0%	30.0%	23.3%
z=3.22 (N=22,6) p<.05	Pres.U.	30	16.7%	23.3%	16.7%	23.3%	13.3%	6.7%
35. What percent of the instructors gave feedback on homework, reports, and tests that did not help them to correct their mistakes?	EPCC	30	63.3%	20.0%	10.0%	3.3%	3.3%	0.0%
z=1.94 (N=17,11) NS	Pres.U.	29	37.9%	24.1%	17.2%	20.7%	0.0%	0.0%
36. What percent of the instructors did <u>not</u> give students enough practice or time to insure that they learned?	EPCC	28	64.3%	25.0%	7.1%	3.6%	0.0%	0.0%
z=3.06 (N=18,10) p<.05	Pres.U.	28	32.1%	28.6%	10.7%	10.7%	17.9%	0.0%
37. What percent of the instructors made students study and practice much more than necessary to learn the material?	EPCC	28	60.7%	7.1%	14.3%	7.1%	7.1%	3.6%
z=0.49 (N=17,11) NS	Pres.U.	28	35.7%	39.3%	3.6%	10.7%	7.1%	3.6%

		N	0-10	10-20	20-40	40-60	60-80	80-100
38. What percent of the instructors allowed class discussions to ramble from the purpose of the course?	EPCC	28	46.4%	14.3%	21.4%	7.1%	7.1%	3.6%
z=-0.29 (N=12,16) NS	Pres.U.	28	42.9%	21.4%	21.4%	10.7%	3.6%	0.0%
39. What percent of the instructors conducted class discussions that were well managed and involved many students?	EPCC	28	3.6%	3.6%	10.7%	14.3%	42.9%	25.0%
z=3.25 (N=16,12) p<.05	Pres.U.	28	3.6%	25.0%	21.4%	25.0%	10.7%	14.3%
40. What percent of the instructors did not allow discussion in class?	EPCC	28	78.6%	10.7%	3.6%	7.1%	0.0%	0.0%
z=2.77 (N=13,15) p<.05	Pres.U.	28	46.4%	28.6%	17.9%	3.6%	0.0%	3.6%
41. What percent of the instructors allowed a few students to dominate class discussions?	EPCC	28	42.9%	32.1%	25.0%	0.0%	0.0%	0.0%
z=-0.32 (N=10,18) NS	Pres.U.	28	50.0%	25.0%	14.3%	7.1%	3.6%	0.0%
42. What percent of the instructors gave lectures that were poorly organized?	EPCC	28	78.6%	10.7%	3.6%	3.6%	3.6%	0.0%
z=2.07 (N=15,13) p<.05	Pres.U.	28	46.4%	28.6%	21.4%	0.0%	3.6%	0.0%
43. What percent of the instructors gave lectures that contained clear and simple explanations of concepts and procedures?	EPCC	29	3.4%	6.9%	6.9%	3.4%	41.4%	37.9%
z=3.80 (N-20,8) p<.05	Pres.U.	29	6.9%	6.9%	17.2%	31.0%	27.6%	10.3%
44. What percent of the instructors gave lectures that were over the students' heads?	EPCC	28	60.7%	21.4%	10.7%	3.6%	3.6%	0.0%
z=3.80 (N=20,8) p<.05	Pres.U.	28	28.6%	28.6%	10.7%	10.7%	17.9%	3.6%

The statistical significance of the differences between the El Paso Community College and Present University distributions on each item was evaluated by means of the sign test for matched pairs. The resulting z score is given below each item. Two values for N are given. The first indicates the number of pairs of scores used in the test. The second indicates the number of zero differences between the two distributions since these are not used in the sign test. The sum of these two indicates the number of matched pairs; i.e., respondents who responded to both the El Paso Community College and Present University parts of the item. If these numbers sum to less than the numbers in the first column, it indicates that some added respondents responded to only one part of the item. A two-tailed test was used at the .05 level of significance.

TRIAL INFERENCES

The inferences in this section are concerned with the identification of deficiencies in the curriculum. They are trial inferences in that the data sample is not always adequate as a basis for corrective actions.[1/]

Vocational Students Follow-up Questionnaire

A number of these items simply provide descriptive information about the former students or their experiences.

Items 4, 11, and 12. In responding to item 4, 36.9% of the respondents indicate that they were unemployed or working in an area unrelated to that in which they were trained at the El Paso Community College. There is a need to set guidelines as to how high a figure is acceptable. But this figure is clearly too high.

The results for item 4 was not confirmed by the responses to item 11 in which only 22.2% indicate they have had trouble finding or holding a job for which they were trained by El Paso Community College. Substantially fewer students responded to this item, which may account for the difference. However, even 22.2% seems somewhat high.

Of those who had trouble finding or holding a job, 6 of the 10 respondents couldn't find openings in their vocational area and 4 found many applicants for just a few openings. Responses to these three items indicate that a substantial proportion of graduates did have difficulty finding proper work. It must be determined whether these difficulties are scattered across many vocational areas or whether they are concentrated in just a few areas.

[1/] See section entitled Sample Size on page 42.

Items 5, 6 and 7. Responses to item 6 indicate that the respondents' income has increased substantially since entering El Paso Community College. It seems reasonable to infer that the 16.7% who are making less than $80 per week even after going to El Paso Community College are essentially the same 16% who work 30 hours or less as indicated in item 5. Hence, there is probably no need to become concerned over their relatively low income.

Item 7 indicates that 32.7% of the respondents indicate that they can't estimate their increase in income because of very changed conditions in their lives. Another 24.5% did not feel that their increased income was due to their attending El Paso Community College. There is a strong implication they did not attend El Paso Community College to increase their income. They had some other purpose for obtaining vocational training. Almost 43% attributed their increase in income directly to their El Paso Community College training.

Items 13 and 14. Some statements in item 13 are positive in tone and some are negative. However, if only a few respondents check a positive statement, then that statement has negative implications. Again, there is a need to set guidelines as to how high (or how low) a percentage figure is acceptable. The most highly selected statements in item 13 are all positive. These percentages ranged from 25.9% to 63.8%. However, three negative statements were selected by smaller but substantial percentage of respondents:

Too little. I wasn't taught concepts I did need on the job.	17.2%

Practice problems in the classroom were not like problems I get on the job.	17.2%
Directions for doing job activities did not have enough detail or were poorly organized.	20.7%

Again, there is a need to determine whether these responses are different for different vocational programs.

Instructional Quality

The Instructional Quality items ask the respondent to indicate the percent of his instructors that engaged in various instructional practices. In the VSFQ, the respondent is given seven response categories from which to choose:

0-10%
10-20%
20-40%
40-60%
60-80%
80-90%
90-100%

The responses to any one of these items forms a frequency distribution across these categories. In order to rank order these items in terms of criticality, it is necessary to reduce these response distributions to a single index. Such an index was devised by obtaining the difference between the two most favorable and the two least favorable categories. This index uses more of each distribution, provides a wider range of scores, and is easier to compute than the median. These widespread difference scores were used to rank order the items as presented in Table I. Rank 1 represents the least favorable position.

TABLE I. Rankings of Vocational Students Follow-up Questionnaire Instructional Quality Items from Least to Most Favorable.

Rank		Favorable Categories		Unfavorable Categories		Difference (Gap)
1	16.* What percent of the instructors required students (2)† to learn on their own without special help?	(0-20)	41.5	(80-100)	20.8	20.7 (3.3)
2	30. What percent of the instructors conducted class discussions (16) that were well managed and involved many students?	(80-100)	44.4	(0-20)	20.4	24.0 (0.1)
3	17. What percent of the instructors praised students (3) for good or improved performance?	(80-100)	42.6	(0-20)	18.5	24.1 (4.5)
4	23. What percent of the instructors gave feedback (9) on homework, reports, and tests with as little delay as possible?	(80-100)	50.0	(0-20)	21.4	28.6 (11.4)
5	25. What percent of the instructors gave feedback (11) on homework, reports, and tests that was very useful in helping students to correct their mistakes?	(80-100)	58.1	(0-20)	18.1	40.0 (9.1)
6	34. What percent of the instructors gave lectures (20) that contained clear and simple explanations of concepts and procedures?	(80-100)	58.2	(0-20)	9.1	49.1 (6.9)
7	19. What percent of the instructors were always available (5) during office hours to help individual students?	(80-100)	60.0	(0-20)	4.0	56.0 (3.2)
8	15. What percent of the instructors responded helpfully (1) to students' questions and learning problems?	(80-100)	64.8	(0-20)	5.6	59.2 (1.2)
9	29. What percent of the instructors allowed class discussions (15) to ramble from the purpose of the course?	(0-20)	69.8	(80-100)	9.4	60.4 (11.2)
10	27. What percent of the instructors did <u>not</u> give (13) students enough practice or time to insure that they learned?	(0-20)	79.2	(80-100)	7.6	71.6 (1.0)
11.	28. What percent of the instructors made students (14) study and practice much more than necessary to learn the material?	(0-20)	78.5	(80-100)	5.9	72.6 (1.4)

(Table I, continued)

Rank		Favorable Categories		Unfavorable Categories		Difference (Gap)	
12 (4)	18. What percent of the instructors scolded students or put them down?	(0-20)	81.5	(80-100)	7.5	(0.5)	74.0
13 (18)	32. What percent of the instructors allowed a few students to dominate class discussions?	(0-20)	83.6	(80-100)	9.1	(1.4)	74.5
14 (12)	26. What percent of the instructors gave feedback on homework, reports, and tests that did not help them to correct their mistakes?	(0-20)	82.7	(80-100)	5.8	(1.4)	76.9
15 (10)	24. What percent of the instructors gave feedback on homework, reports, and tests that was long delayed?	(0-20)	83.0	(80-100)	5.7	(1.9)	77.3
16 (7)	21. What percent of the instructors gave examinations that were unnecessarily difficult?	(0-20)	83.0	(80-100)	3.8	(0.8)	79.2
17 (8)	22. What percent of the instructors gave examinations that were not relevant to later needs?	(0-20)	80.0	(80-100)	0.0	(1.9)	80.0
18 (19)	33. What percent of the instructors gave lectures that were poorly organized?	(0-20)	85.5	(80-100)	3.6	(0.4)	81.9
19. (6)	20. What percent of the instructors gave examinations that were too easy?	(0-20)	90.3	(80-100)	0.0	(1.8)	90.3
20. (21)	35. What percent of the instructors gave lectures that were over the students' heads?	(0-20)	92.1	(80-100)	0.0	(0.5)	92.1
21. (17)	31. What percent of the instructors did not allow discussion in class?	(0-20)	92.6	(80-100)	0.0		92.6

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* These numbers are the actual item numbers as they appeared in the questionnaire.

† These numbers identify identical items in the Instructional Quality Section of the TSFQ in Tables II and III.

It is theoretically possible for a widespread difference score to be negative, but all of these are positive. There are no absolute standards for determining whether or not a widespread difference score indicates a critical problem or not. We can only speak in relative terms; that is, given two items, the one with the lower score indicates an instructional practice in more critical need of correction.

How many of the items in the Instructional Quality questionnaire indicate a need for corrective action? An appropriate procedure might be to make a judgment regarding the lowest difference score one would accept as adequate and then find the nearest substantial gap in the distribution of difference scores. Or identifying the gaps in the distribution might give us a clue as to where to set the minimally adequate difference score. The largest gaps are between the 4th and 5th ranked items (11.4), the 9th and 10th ranked items (11.2) and the 5th and 6th ranked items (9.1). On this basis, it seems reasonable to select the first nine items in Table IV for corrective emphasis. Thus, instructors may need some help in the following areas:

1. learning to provide students with special help,
2. improving their management of class discussion,
3. learning to praise students for improving,
4. providing timely feedback,
5. learning to formulate useful feedback,
6. developing clear and simple explanations,
7. diminishing students need to see them during office hours,
8. improving the helpfulness of their responses to student questions and learning problems, and
9. holding discussions to the purpose of the course.

Transfer Students Follow-up Questionnaire

Items 1 and 4. A larger proportion of respondents considered themselves to be better prepared in one or more subject areas than considered themselves to be poorly prepared as compared to other students at their present university. This difference is statistically significant ($z = 2.51$, $p = .012$).

Items 2 and 5. Psychology and history were selected by large proportions of students as subjects in which they were best prepared. No students selected these as subjects in which they were poorly prepared. Political science, literature, biology, and mathematics were selected by substantial numbers as subjects in which they were both well prepared and poorly prepared. It may be that the instructional approaches used in these latter subject areas are effective for many students and ineffective for many other students. These areas may require a greater choice of approaches to meet the needs of various groups of students.

Instructional Quality

The former transfer students were asked to respond to each instructional quality item with regard to their experience at El Paso Community College and with regard to their present university. The difference between each of these pairs of distributions on each item was evaluated statistically by means of a sign test for matched pairs. Of the 21 comparisons, 16 are statistically significant at the .05 level and these differences all favor El Paso Community College.

This speaks well of the instructional practices at El Paso Community College as compared to four-year institutions which its students later attend.

Widespread difference scores were computed for the responses to these items with regard to El Paso Community College and with regard to the respondents present university (see Tables II and III). The El Paso Community College difference scores of the former transfer students start somewhat lower than similar scores of the former vocational students. The difference scores for the transfer students' present university start much lower than either of the other two. In fact, the lowest six of these scores are negative.

It is interesting to note that eight of the ten lowest difference scores in each of these distributions (VSFQ, TSFQ-EPCC, and TSFQ-Present University) are provided by the same items. Students view these three settings as possessing relatively the same instructional problems, but in somewhat different order and different degrees of severity. Thus, instructors in all three of these settings have difficulty in the following areas:

1. praising students for good or improved performance,
2. providing useful feedback,
3. conducting well-managed class discussions,
4. providing timely feedback,
5. providing clear and simple explanations,
6. requiring students to learn without special help,
7. being available to help students during office hours, and
8. responding helpfully to students questions and learning problems.

TABLE II. Rankings of Transfer Students Follow-up Questionnaire Instructional Quality Items from Least to Most Favorable for El Paso Community College.

Rank			Favorable Categories		Unfavorable Categories		Difference (Gap)	
1	34.* (11)†	What percent of the instructors gave feedback on homework, reports, and tests that was very useful in helping students to correct their mistakes?	(80-100)	23.3	(0-20)	13.3	(4.4)	10.0
2	26. (3)	What percent of the instructors praised students for good or improved performance?	(80-100)	28.6	(0-20)	14.2	(7.0)	14.4
3	39. (16)	What percent of the instructors conducted class discussions that were well managed and involved many students?	(80-100)	25.0	(0-20)	3.6	(6.2)	21.4
4	43. (20)	What percent of the instructors gave lectures that contained clear and simple explanations of concepts and procedures?	(80-100)	37.9	(0-20)	10.3	(4.6)	27.6
5	28. (5)	What percent of the instructors were always available during office hours to help individual students?	(80-100)	39.3	(0-20)	7.1	(10.7)	32.2
6	32. (9)	What percent of the instructors gave feedback on homework, reports, and tests with as little delay as possible?	(80-100)	50.0	(0-20)	7.1	(3.6)	42.9
7	25. (2)	What percent of the instructors required students to learn on their own without special help?	(0-20)	57.2	(80-100)	10.7	(10.6)	46.5
8	38. (15)	What percent of the instructors allowed class discussions to ramble from the purpose of the course?	(0-20)	60.7	(80-100)	3.6	(7.1)	57.1
9	37. (14)	What percent of the instructors made students study and practice much more than necessary to learn the material?	(0-20)	67.8	(80-100)	3.6	(0.1)	64.2
10	24. (1)	What percent of the instructors responded helpfully to students' questions and learning problems?	(80-100)	67.9	(0-20)	3.6	(4.6)	64.3
11	29. (6)	What percent of the instructors gave examinations that were too easy?	(0-20)	68.9	(80-100)	0.0	(3.6)	68.9

[redacted] Continued

Rank		Favorable Categories		Unfavorable Categories		Difference (Gap)	
12 (8)	31. What percent of the instructors gave examinations that were not relevant to later needs?	(0-20)	79.3	(80-100)	6.8	(2.5)	72.5
13 (18)	41. What percent of the instructors allowed a few students to dominate class discussions?	(0-20)	75.0	(80-100)	0.0	(0.1)	75.0
14 (10)	33. What percent of the instructors gave feedback on homework, reports, and tests that was long delayed?	(0-20)	82.2	(80-100)	7.1	(7.0)	75.1
15 (21)	44. What percent of the instructors gave lectures that were over the students' heads?	(0-20)	82.1	(80-100)	0.0	(1.2)	82.1
16 (12)	35. What percent of the instructors gave feedback on homework, reports, and tests that did not help them to correct their mistakes?	(0-20)	83.3	(80-100)	0.0	(5.6)	83.3
17 (7)	30. What percent of the instructors gave exams that were unnecessarily difficult?	(0-20)	88.9	(80-100)	0.0	(0.4)	88.9
18 (13)	36. What percent of the instructors did not give students enough practice or time to insure that they learned?	(0-20)	89.3	(80-100)	0.0	(0.0)	89.3
19 (17)	40. What percent of the instructors did not allow discussion in class?	(0-20)	89.3	(80-100)	0.0	(0.0)	89.3
20 (19)	42. What percent of the instructors gave lectures that were poorly organized?	(0-20)	89.3	(80-100)	0.0	(3.5)	89.3
21 (4)	27. What percent of the instructors scolded students or put them down?	(0-20)	96.4	(80-100)	3.6		92.8

* These numbers are the actual item numbers as they appeared in the questionnaire.

† These numbers identify identical items in the Instructional Quality Section of the VSFQ in Table I and of the Present University part of the TSFQ in Table III.

TABLE III. Rankings of Transfer Students Follow-up Questionnaire Instructional Quality Items from Least to Most Favorable for Present University.

Rank			Favorable Categories		Unfavorable Categories		Difference (Gap)
1	26.* (3)†	What percent of instructors praised students for good or improved performance?	(80-100)	3.6	(0-20)	53.6	50.0 (16.3)
2	34. (11)	What percent of the instructors gave feedback on homework, reports, and tests that was very useful in helping students to correct their mistakes?	(80-100)	6.7	(0-20)	40.0	33.3 (19.0)
3	39. (16)	What percent of the instructors conducted class discussions that were well managed and involved many students?	(80-100)	14.3	(0-20)	28.6	14.3 (6.5)
4	32. (9)	What percent of the instructors gave feedback on homework, reports, and tests with as little delay as possible?	(80-100)	14.3	(0-20)	22.1	7.8 (0.4)
5	28. (5)	What percent of the instructors were always available during office hours to help individual students?	(80-100)	18.5	(0-20)	25.9	7.4 (3.9)
6	43. (20)	What percent of the instructors gave lectures that clear and simple explanations of concepts and procedures?	(80-100)	10.3	(0-20)	13.8	3.5 (14.2)
7	24. (1)	What percent of the instructors responded helpfully to students' questions and learning problems?	(80-100)	21.4	(0-20)	10.7	10.7 (6.9)
8	25. (2)	What percent of the instructors required students to learn on their own without special help?	(80-100)	35.7	(0-20)	17.9	17.8 (17.9)
9	33. (10)	What percent of the instructors gave feedback on homework, reports, and tests that was long delayed?	(0-20)	46.4	(80-100)	10.7	35.7 (8.7)
10	30. (7)	What percent of the instructors gave exams that were unnecessarily difficult?	(0-20)	48.1	(80-100)	3.7	44.4 (8.2)

(Table II, continued)

Rank		Favorable Categories		Unfavorable Categories		Difference (Gap)
11 (21)	44. What percent of the instructors gave lectures that were over the students' heads?	(0-20)	57.2	(80-100)	3.6	53.6 (17.1)
12 (13)	36. What percent of the instructors did not give students enough practice or time to insure that they learned?	(0-20)	60.7	(80-100)	0.0	60.7 (1.3)
13 (12)	35. What percent of the instructors gave feedback on homework, reports, and tests that did not help them to correct their mistakes?	(0-20)	62.0	(80-100)	0.0	62.0 (0.1)
14 (8)	31. What percent of the instructors gave examinations that were not relevant to later needs?	(0-20)	62.1	(80-100)	0.0	62.1 (2.2)
15 (15)	38. What percent of the instructors allowed class discussions to ramble from the purpose of the course?	(0-20)	64.3	(80-100)	0.0	64.3 (7.1)
16 (14)	37. What percent of the instructors made students study and practice much more than necessary to learn the material?	(0-20)	75.0	(80-100)	3.6	71.4 (0.0)
17 (17)	40. What percent of the instructors did not allow discussion in class?	(0-20)	75.0	(80-100)	3.6	71.4 (3.6)
18 (4)	27. What percent of the instructors scolded students or put them down?	(0-20)	75.0	(80-100)	0.0	75.0 (0.0)
19 (18)	41. What percent of the instructors allowed a few students to dominate class discussions?	(0-20)	75.0	(80-100)	0.0	75.0 (0.0)
20 (19)	42. What percent of the instructors gave lectures that were poorly organized?	(0-20)	75.0	(80-100)	0.0	75.0 (18.1)
21 (6)	29. What percent of the instructors gave examinations that were too easy?	(0-20)	93.1	(80-100)	0.0	93.1

* These numbers are the actual item numbers as they appeared in the questionnaire.

† These numbers identify identical items in the Instructional Quality Section of the VSFQ in Table II and of EPPC part of the TSFQ in Table III.

RECOMMENDATIONS FOR IMPROVEMENT

Vocational Students Follow-Up Questionnaire

Items 8, 9, and 10 in the Content Preparation part of this questionnaire required constructed responses from the respondents. It was intended to use the responses from this initial trial as a base for developing multiple choice items. The few responses that were obtained, however, did not provide useful information. It seems reasonable to believe at this time that general purpose alternatives cutting across vocational programs are not feasible beyond those used in Item 13. Beyond this, it may be necessary to develop special purpose questionnaires dealing with specific programs. The purpose of such questionnaires is to assess the value of specific skills and knowledges in actual vocational practice. If it can be assumed that practices in a vocation are fairly uniform throughout the community, then intense interviews of a few graduates may be more valuable than questionnaires administered to a broad sample of graduates.

Transfer Students Follow-Up Questionnaire

The ID block used in the VSFQ needs to be inserted at the beginning of this questionnaire.

Items 3 and 6 are constructed response items concerned with Content Preparation. Few responses were obtained and they contained little useful information. Again, the intent had been to use these constructed responses to build multiple choice items. And, again, it is believed that it may be necessary to develop special purpose questionnaires dealing

with specific subject areas. The purpose of such questions is to assess the value of specific skills and knowledges to the learning of advanced subject areas at the subsequent four year institution. Again, if it can be assumed that the programs at the subsequent institutions are fairly uniform, then intense interviews of a few graduates may be more valuable than questionnaires administered to a broad sample of graduates.

Removal of Items 3 and 6 leaves this questionnaire without any Content Preparation items dealing with specific details of content. Developing a general content item that applies to all subject areas poses a problem, since there are no generally accepted content categories cutting across subject areas. Hence, it becomes necessary to invent a set of useful general categories that can be explained briefly to respondents and that they can use in assessing the value of various subject areas. Table IV presents a sample item which revolves about a set of five categories. The usefulness of these categories to instructor and administrative personnel needs to be determined. These categories are based on the assumption that lower level courses in a subject area (and most especially the introductory survey courses) should present substantial information in each category if the students' general educational perspectives and career decisions are to be enhanced.

The response choices for this item can be either of two kinds:

a. A set which allows the student to compare his preparation to other students, or

TABLE IV

CONTENT PREPARATION

1. A field of knowledge is made up of five general parts:

   a. Technical content: the facts, concepts, methods, principles, laws, and relationships that make up the major part of the field.

   b. Social relevance: application of the technical content of a field to today's personal, social or technical problems.

   c. Career potential: the kinds of jobs in the field, demand for such jobs now and in the future, and the life style associated with these jobs.

   d. Present-day leaders: who is doing what in the field today.

   e. Historical development: important trends and movements, people, and events in the development of the field in the past.

Each of the courses offered in college is taken from a broader field of knowledge. Most of the fields of knowledge offered at the El Paso Community College are listed in the left margin on the next page.

Write a number in each box on the next page that tells how well you know each part of each field as compared to students from other colleges and universities, as follows:

1 I know this much better than most other students.

2 I know this somewhat better than most other students.

3 I know this about as well as most other students.

4 I know this somewhat less well than other students.

5 I know this much less well than other students.

In the first column on the next page, write the approximate number of credit hours you earned in each field while at EPCC.

The parts of the fields are listed across the top in the second through sixth columns. Write the appropriate number from 1 to 5 in each box to indicate how well you know that part of each field. Respond only to those fields in which you earned some credit hours at EPCC.

(TABLE IV continued)

		Credit Hours	TECHNICAL CONTENT	SOCIAL RELEVANCE	CAREER POTENTIAL	PRESENT-DAY LEADERS	HISTORICAL DEVELOPMENT
		01	2	3	4	5	6
Political Science	30						
Literature	40						
Chemistry	50						
Physics	60						
Psychology	70						
Sociology	30						
Biology	40						
Mathematics	50						
Economics	60						
English Composition	70						
History	30						

b. a set which allows the student to assess the absolute value of his own preparation.

The first set is included in Table IV. The second set might read as follows:

1. I have been very well prepared in this area.
2. I have been somewhat well prepared in this area.
3. I have been moderately prepared in this area.
4. I have been somewhat poorly prepared in this area.
5. I have been very poorly prepared in this area.

This second set is probably of more value, since most institutions are probably most deficient in the same categories--social relevance, career potential, and present day leaders. Thus, a student who is much better prepared than most other students may still not be adequately prepared. Since most institutions draw from the same population of textbooks, most are likely to have the same deficiencies. An instructor or department would probably have to obtain or prepare supplementary materials to correct these deficiencies.

This item is relatively complex. It needs to be tried out with students to determine if they can or are willing to go through its several steps.

Item 8 was intended to identify topics about which former students would have liked to have obtained instruction. Responses to this item were too few and too scattered to be useful. This item should be eliminated from future questionnaires.

The sets of items on Oral Communication Skills and Learning Skills failed to surface any particular problems among this group of former students. Hence, they may not be worth continuing in subsequent questionnaires.

Sample Size

The determination of appropriate sample size depends upon the selection of a confidence coefficient (α), a confidence band width (W), and the expected proportion (p). Sample size can then be computed by the formula[1/];

$$N = \frac{4Z^2_{\frac{1}{2}\alpha}\, pq}{W^2}$$

Assume a confidence coefficient $1 - \alpha = .95$. If p is expected to be .15, then it might be reasonably expected that W = .10. That is, we may desire relatively precise estimates of p for either large or small values of p. Therefore:

$$N = \frac{4(1.96)^2 \quad (.15)(.85)}{(.10)^2} = 196$$

Much larger values of W might be acceptable for middle values of p. Thus, if p = .40, W might equal .20. Therefore:

$$N = \frac{4(1.96)^2 (.40)(.60)}{(.20)^2} = 92$$

The difficulty with these estimates of N, however, is that the procedure is based on the assumption of random sampling. Random sampling probably cannot be assumed in mail out questionnaires with low or even moderate return rates. Even if random sampling could be assumed, it is clear that the present sample of 58 is too small.

If the confidence coefficient $1 - \alpha$ is reduced to .90, then for middle values of p:

[1/] Walker, Helen M. and Joseph Lev. Statistical Inference, Henry Holt and Company, Inc., New York, 1953, page 70.

$$N = \frac{4(1.65)^2 (.40)(.60)}{(.20)^2} = 65$$

For large or small values of p

$$N = \frac{4(1.65)^2 (.15)(.85)}{(.10)^2} = 139$$

However, these figures are also based on the assumption of random sampling. In addition, it is the large and small values of p that are most meaningful as a basis for action, rather than the middle values.

II. FACULTY MOTIVATION SCALES[1/]

A series of Faculty Motivation Scales were constructed to measure faculty involvement in the development of modular instruction in the FIPSE (Fund for the Improvement of Secondary Education) program. The following scales were constructed and administered to 27 of the 31 faculty members in the program:

Scale 1. Interactions with the Fund Program Staff.	26 items.
Scale 2. Other Instructors' Responses to Requests for Help from You.	11 items.
Scale 3. Educational Development Officers' (EDO) Responses to Requests for Help from You.	11 items.
Scale 4. Your Responses to Requests for Help from Other Instructors.	11 items.
Scale 5. Interactions Among Instructors.	22 items.
Scale 6. Personal Experience.	13 items.

The items in Scales 2, 3, and 4 asked the same questions about different categories of people (others, the EDO, and yourself).

Positive and negative ends were defined for the response distributions to each item in the first five scales. Difference scores were calculated for each of these items and the items in each scale were ordered in terms of criticality on the basis of these scores. These results are presented in Tables V, Vl, Vll, Vlll, and IX.

Scales 2 and 3 contained "Doesn't apply" and "Didn't ask" response categories. Percent response in these categories were combined in an

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[1/] This report is a supplement to the more extensive report prepared by the Project Historian.

"Inaction score." Scale 4 contained a "None asked" category. The percent response in this category was also labeled an "Inaction score." Items in these three scales were ordered on the basis of their inaction scores. These orderings and the inaction scores are presented in Tables VI, VII, and VIII.

Consider the results for Scale 1 presented in Table V. The first three items in Table V exhibit undesirable difference scores. However, the size of these difference scores and the ordering of the items depends upon what one considers to be a positive or negative response. With regard to item 1, it was assumed that "having a free rein in planning and proposing" does not lead to the best quality solutions incorporating the ideas of all available experts or the highest assurance of acceptance by colleagues in one's discipline.

With regard to item 22, evaluating the effectiveness of an instructional program primarily on the basis of "subjective feedback" from students is too soft a criterion. Performance on criterion--referenced tests, as cited in item 21, is much more appropriate.

With regard to item 10, administrators above the Division level simply may not have had much opportunity to interact with faculty members in the program.

The low difference scores on items 6 and 5 do not contradict item 1. These two items refer to general administrative planning rather than detailed planning involved in program development. The response to items 6, 9, 5, 12, and 1 suggest that it was not uncommon for administrators to make assignments to individual faculty members and then bow out of the developmental process.

TABLE V. DIFFERENCE SCORES FOR SCALE 1: INTERACTIONS WITH THE FUND PROGRAM STAFF

	Pos.	Neg.	Diff.	Gap
1. I was given a free rein in planning and proposing what I wanted to do for my own courses.	4	77	-73	47
22. Administrators have placed primary emphasis on instructional effectiveness established by means of student subjective feedback.	15	41	-26	9
10. An administrator above the Division level told me some aspects of my modules were well done.	29	46	-17	18
6. Planning decisions were made by just a few faculty members.	37	36	1	3
9. Administrators above the Division level have largely ignored faculty problems in the development of modules	30	26	4	1
5. Planning decisions were made by the Division Chairman after consultation with key faculty members.	38	33	5	1
15. I felt that the fund program staff were talking in generalities and didn't really understand the process of individualizing instruction.	44	38	6	6
24. Interactions with the Fund Program staff leave me feeling good about my efforts.	38	26	12	5
12. I felt that the review committee didn't care whether I developed effective modules just so long as I met the deadlines.	44	27	17	0
13. I understood the commitment of time and energy my project would require.	53	36	17	1
8. Administrators above the Division level have been supportive of faculty problems in the development of modules.	40	22	18	1
4. Planning decisions were made by majority vote among all the faculty members in the discipline.	41	22	19	1
21. Administrators have placed primary emphasis on instructional effectiveness established by means of student performance on criterion referenced tests.	42	22	20	13

	Pos.	Neg.	Diff.	Gap
26. I feel that administrators other than the Fund Program staff are supportive of the program.	48	15	33	4
23. I have been encouraged to field test my modules with my colleagues.	61	24	37	2
14. I felt that I knew how to proceed and what was expected of me in applying for and completing the work for released time.	62	23	39	5
25. Interactions with the Fund Program staff generally leave me feeling that I have failed in some way.	66	22	44	0
3. Planning decisions were made by consensus among all the faculty members in the discipline.	55	11	44	3
17. Released time contracts were awarded for the areas that most needed development and to the people most interested in doing it.	58	11	47	5
2. I participated in open planning sessions in which I had a full and equal voice.	63	11	52	0
7. Planning decisions were made by the Division Chairman without consultation.	56	4	52	7
16. Released time contracts were fairly awarded.	66	7	59	14
18. I was involved fully and fairly in deciding the strategy and schedule for developing my modules.	81	8	73	0
19. I feel that the modules I have developed should be used only in my classes.	77	4	73	8
11. An administrator above the Division level told me some aspects of my modules were inadequate.	85	4	81	1
20. I feel the modules I have developed should be used in my classes as well as other EPCC classes.	82	0	82	

The very favorable responses to items 17 and 16 indicate that there was considerable satisfaction regarding the awarding of release time contracts. This is a very strong feature of the present management of the FIPSE program.

Scales 2, 3, and 4 consist of the same questions oriented towards different people. Scales 2 and 4 are concerned with faculty members' responses to requests for help in developing a program. In one case concern is with the response of other faculty and in the other case concern is with the response of the respondent. If the respondents and the other faculty referred to in these scales are members of a single population, then the two scales should give very similar results. However, the rank order correlation between the item rankings as shown in Tables VI and VIII is -0.04. There is no relationship between these two rankings. This lack of relationship suggests that faculty in the FIPSE program requested help in developing their programs from faculty who were not in the FIPSE program. This suggestion is further corroborated by the inaction scores on these two scales presented in Tables IX and XI. The inaction scores on Scale 4 are almost twice the magnitude of those on Scale 2. Faculty members in the program must have asked more faculty members for help than they provided help to others. And these additional faculty members could only have come from outside the program.

The high inaction scores towards the EDO as shown in Table X are not surprising. In general, those forms of help calling for content expertise had the highest inaction scores. The EDO can only be expected to be

TABLE VI. DIFFERENCE SCORES FOR SCALE 2:
OTHER INSTRUCTORS RESPONSES TO REQUESTS FOR HELP FROM YOU.

	Pos.	Neg.	Diff.	Cap
6. Help you select examples for your modules.	35	25	10	12
7. Review and critique the examples you have selected for your modules.	50	28	22	8
10. Review and critique the relevance of practice and test exercises to the objectives.	48	18	30	3
5. Review and critique the learning strategy (analysis of objectives, sequencing, and practice requirements) of your modules.	47	14	33	1
4. Help you plan a learning strategy (analysis of objectives, sequencing, and practice requirements) for your modules.	45	11	34	1
1. Help you select and state the objectives for your modules.	47	12	35	2
9. Review and critique the pictures, graphs, and tables in your modules for clarity, relevance, and ease of use.	45	8	37	5
8. Review the level of readability and comprehension in your modules and suggest simplifications in vocabulary, sentence length and structure, and organization and format.	58	16	42	1
3. Review and critique the technical accuracy of the content of your modules.	59	16	43	6
11. Review and critique the complete and final module as the reviewer sees fit.	63	14	49	3
2. Review and critique the objectives for your modules.	63	11	52	

TABLE VII. DIFFERENCE SCORES FOR SCALE 3: EDO RESPONSES TO REQUESTS FOR HELP FROM YOU.

	Pos.	Neg.	Diff.	Gap
10. Review and critique the relevance of practice and test exercises to the objectives.	0	19	-19	8
6. Help you select examples for your modules.	0	11	-11	2
1. Help you select and state the objectives for your modules.	3	12	- 9	2
7. Review and critique the examples you have selected for your modules.	18	25	- 7	0
8. Review the level of readability and comprehension in your modules and suggest simplifications in vocabulary, sentence length and structure, and organization and format.	8	15	- 7	3
3. Review and critique the technical accuracy of the content of your modules.	11	15	- 4	0
9. Review and critique the pictures, graphs, and tables in your modules for clarity, relevance, and ease of use.	15	19	- 4	7
2. Review and critique the objectives for your modules.	22	19	3	9
11. Review and critique the complete and final module as the reviewer sees fit.	34	22	12	3
4. Help you plan a learning strategy (analysis of objectives, sequencing, and practice requirements) for your modules.	26	11	15	4
5. Review and critique the learning strategy (analysis of objectives, sequencing, and practice requirements) of your module.	34	15	19	

TABLE VIII. DIFFERENCE SCORES FOR SCALE 4: YOUR RESPONSES TO REQUESTS FOR HELP FROM OTHER INSTRUCTORS.

	Pos.	Neg.	Diff.	Gap
6. Help him select examples for his modules.	19	8	11	4
9. Review and critique the pictures, graphs, and tables in his modules for clarity, relevence, ease of use.	22	7	15	4
2. Review and critique the objectives for his modules.	34	15	19	0
11. Review and critique the complete and final module as you see fit.	34	15	19	2
7. Review and critique the examples he has selected.	36	15	21	1
8. Review the level of readability and comprehension in his modules and suggest simplifications in vocabulary, sentence length and structure, and organization and format.	29	7	22	4
10. Review and critique the relevance of practice and test exercises to the objectives.	33	7	26	4
4. Help plan a learning strategy (analysis of objectives, sequencing, and practice requirements) for his modules.	37	7	30	0
3. Review and critique the technical accuracy of the content of his modules.	37	7	30	7
1. Help select and state the objectives for his modules.	48	11	37	11
5. Review and critique the learning strategy (analysis of objectives, sequencing, and practice requirements) os his modules.	52	4	48	

TABLE IX. INACTION SCORES FOR SCALE 2: OTHER INSTRUCTORS RESPONSES TO REQUESTS FOR HELP FROM YOU.

	Inaction Total %
9. Review and critique the pictures, graphs, and tables in your modules for clarity, relevance, and ease of use.	47
4. Help you plan a learning strategy (analysis of objectives, sequencing, and practice requirements) for your modules.	44
1. Help you select and state the objectives for your modules.	41
6. Help you select examples for your modules.	40
5. Review and critique the learning strategy (analysis of objectives, sequencing, and practice requirements) of your modules.	39
10. Review and critique the relevance of practice and test exercises to the objectives.	34
2. Review and critique the objectives for your modules.	26
8. Review the level of readability and comprehension in your modules and suggest simplifications in vocabulary, sentence length and structure, and organization and format.	26
3. Review and critique the technical accuracy of the content of your modules.	25
11. Review and critique the complete and final module as the reviewer sees fit.	23
7. Review and critique the examples you have selected for your modules.	22

TABLE X. INACTION SCORE FOR SCALE 3: EDO RESPONSES TO REQUESTS FOR HELP FROM YOU.

	Inaction Total %
6. Help you select examples for your modules.	89
1. Help you select and state objectives for your modules.	85
10. Review and critique the relevance of practice and test exercises to the objectives.	81
8. Review the level of readability and comprehension in your modules and suggest simplifications in vocabulary, sentence length and structure, and organization and format.	77
3. Review and critique the technical accuracy of the content of your modules.	74
9. Review and critique the pictures, graphs, and tables in your modules for clarity, relevance, and ease of use.	66
4. Help you plan a learning strategy (analysis of objectives, sequencing, and practice requirements) for your modules.	63
2. Review and critique the objectives for your modules.	59
7. Review and critique the examples you have selected for your modules.	57
5. Review and critique the learning strategy (analysis of objectives, sequencing, and practice requirements) of your modules.	51
11. Review and critique the complete and final module as the reviewer sees fit.	44

TABLE XI. INACTION SCORES FOR SCALE 4: YOUR RESPONSES TO REQUESTS FOR HELP FROM OTHER INSTRUCTORS.

	Inaction Percent
6. Help him select examples for his modules.	88
9. Review and critique the pictures, graphs, and tables in his modules for clarity, relevance, and ease of use.	86
3. Review and critique the technical accuracy of the content of his modules.	71
8. Review the level of readability and comprehension in his modules and suggest simplifications in vocabulary, sentence length and structure, and organization and format.	71
10. Review and critique the relevance of practice and test exercises to the objectives.	71
2. Review and critique the objectives for his modules.	70.
11. Review and critique the complete and final module as you see fit.	66
7. Review and critique the examples he has selected.	60
4. Help plan a learning strategy (analysis of objectives, sequencing, and practice requirements) for his modules.	59
5. Review and critique the learning strategy (analysis of objectives, sequencing, and practice requirements) of his modules.	59
1. Help select and state the objectives for his modules.	56

	Pos.	Neg.	Diff.	Cap
16. Some of my students expressed their appreciation for the modules I had developed.	53	14	39	2
19. Some of my students expressed a dislike for some or all aspects of individualized instruction after having tried it.	48	7	41	6
9. I told another instructor that some aspect of his modules was inadequate.	55	8	47	3
17. My students cooperate in rendering constructive criticism for improving my modules.	58	8	50	1
21. I submitted an unfavorable comment to the Instructional Research Committee about someone else's released time plan.	62	11	51	2
12. I told one instructor that some aspect of another instructor's modules was inadequate.	53	0	53	9
10. Another instructor told me that some aspect of my modules was inadequate.	66	4	62	19
18. Some of my students expressed their dislike of my modules in general.	81	0	81	

TABLE XII. DIFFERENCE SCORES FOR SCALE 5: INTERACTIONS AMONG INSTRUCTORS.

	Pos.	Neg.	Diff.	Gap
20. Some of my students offered to help write modules.	4	70	-66	30
22. I submitted a favorable comment to the Instructional Research Committee about someone else's released time plan.	19	55	-36	11
6. Other instructors came to my office or classroom to see instructional materials I was developing.	19	44	-25	5
1. I attended a round robin presentation by another instructor to see if I could use his materials in my classes.	23	43	-20	7
5. I went to another instructor's office or classroom to see the instructional materials he was developing.	19	32	-13	5
2. I attended a round robin presentation by another instructor to see if I could use his techniques in preparing my own modules.	26	34	- 8	0
15. Another instructorsincerely thanked me for my criticism of some aspect of my modules.	11	19	- 8	1
3. I attended a round robin presentation by another instructor to learn about implementation of modular instruction.	23	30	- 7	7
4. Other instructors attended my round robin presentations.	19	19	0	10
8. Another instructor told me that some aspect of my modules was well done.	33	23	10	1
11. I told one instructor that some aspect of another instructor's modules was well done.	34	23	11	3
7. I told another instructor that some aspects of his modules was well done.	37	23	14	19
13. I felt that other instructors in my discipline appreciated my work on my modules.	44	11	33	4
14. I thanked another instructor for his criticism of some aspect of my modules.	48	11	37	2

expert in the process of systemetizing instruction, but not in the content of all the various programs. Comparing the order of items in Tables X and VII suggests that the only significant weakness in the EDO's performance was concerned with providing help on readability and comprehension. Comparing the inaction scores on item 8 in Tables IX and X indicates that program faculty relied primarily upon their colleagues for this kind of help. There are specific techniques for simplifying readability and comprehension. It is doubtful if college instructors as a group are familiar with them.

Difference scores for items in Scales 3 and 4 should be viewed with caution. Because of the high inaction scores on these scales, these difference scores are based on a relatively small part of the total sample.

The ordering of items in Scale 5 is presented in Table XII. In general, this ordering suggests amicable relationship among the faculty. However, the negative to zero difference scores on items 6, 1, 5, 2, 3, and 4 indicate little initiative among the faculty to learn from each other.

Overall, there would appear to be two major problems within the program faculty: 1) a lack of continuing interaction with Division level administrators and 2) a lack of effective interaction with other faculty in the program. It may be worth considering developing a management structure for team development of instructional programs in which work is partialed out to individuals but responsibility for design decisions is shared by all members of the team. Some interpersonal training in cooperative actions may be required to make such a format feasible.

It might also be worth considering setting up small steering committees consisting of program faculty from other disciplines for each program effort. A review and check system could be designed for use by the steering committees. And no work can be final until approved by the respective program's steering committee. This arrangement would give each faculty member some program responsibilities beyond his own particular interests and take some load off the EDO. Each faculty member in the program would serve on a development team and on two or three steering committees for other programs. Obviously, some additional release time would have to be provided for the steering committee activities.